

IN THE CLAIMS

1. (currently amended) A data communication apparatus comprising:
 - a transmission side; and
 - a reception side that includes:
 - a spread spectrum processing part that performs a spread spectrum process on an input signal and outputs a spread spectrum processed signal that oscillates in positive and negative directions;
 - an analog-to-digital conversion part that digitally converts the spread spectrum processed signal by sampling the spread spectrum processed signal at a sampling timing in sync with an oscillation timing of the spread spectrum processed signal; and
 - an inverse spread spectrum processing part that performs an inverse spread spectrum process of said spread spectrum process on the digitally converted signal.

2. (previously presented) The data communication apparatus as claimed in claim 1, wherein said spread spectrum process is performed using a predetermined PN sequence.

3. (previously presented) The data communication apparatus as claimed in claim 2, wherein a PN sequence number of said PN sequence is set to a value that is adequate for substantial improvement in the precision of said analog-to-digital conversion process so that data contained in the input signal can be detected with predetermined precision.

4. (previously presented) The data communication apparatus as claimed in claim 1, further comprising:

a gain controlling part that performs a signal gain controlling process on an input signal, wherein

said spread spectrum processing part performs a spread spectrum process on a signal that has undergone said signal gain controlling process.

5. (currently amended) A power line carrier communication system comprising:

- a power line functioning as a data transmission path for transmitting data; and
- a data communication apparatus that terminates said power line, said data communication apparatus comprising:
 - a transmission side; and
 - a reception side that includes
 - a spread spectrum processing part that performs a spread spectrum process on an input signal and outputs a spread spectrum processed signal that oscillates in positive and negative directions;
 - an analog-to-digital conversion part that digitally converts the spread spectrum processed signal by sampling the spread spectrum processed signal at a sampling timing in sync with an oscillation timing of the spread spectrum processed signal; and
 - an inverse spread spectrum processing part that performs an inverse spread spectrum process of said spread spectrum process on the digitally converted signal.

6. (currently amended) A data reception method comprising:

- a spread spectrum processing step of performing a spread spectrum process on an input signal and outputting a spread spectrum processed signal that oscillates in positive and negative directions;

an analog-to-digital conversion step of digitally converting the spread spectrum processed signal by sampling the spread spectrum processed signal at a sampling timing in sync with an oscillation timing of the spread spectrum processed signal; and an inverse spread spectrum processing step of performing an inverse spread spectrum process of said spread spectrum process on the digitally converted signal.

7. (currently amended) The data reception method as claimed in claim 8~~6~~, wherein said spread spectrum process is performed using a predetermined PN sequence in said spread spectrum processing step.

8. (previously presented) The data reception method as claimed in claim 7, wherein a PN sequence number of said PN sequence is set to a value that is adequate for substantial improvement in the precision of said analog-to-digital conversion process so that data contained in the input signal can be detected with predetermined precision.

9. (previously presented) The data reception method as claimed in claim 6, further comprising:

a gain controlling step of performing a signal gain controlling process on an input signal; wherein

said spread spectrum process of said spread spectrum processing step is performed on a signal that has undergone said signal gain controlling process.